

CLAIMS:

1. A discretely adjustable focusing lens (100, 300, 604) comprising:
 - a lens chamber (101, 501) defining a light path and having at least one lens face (105, 155) arranged along that light path;
 - a storage chamber (104) that is fluidly connected with the lens chamber, such
 - 5 that the lens chamber and the storage chamber together form a closed system;
 - a fluid system residing in said chambers and including a first fluid (120), having a first index of refraction, and a second fluid (121), having a second index of refraction that is different from the first index of refraction, said fluids furthermore being immiscible and exhibiting different forces of attraction to electric fields; and
 - 10 - a fluid system switch comprising electrodes (108, 112, 130), operative to rearrange the fluid system between a first discrete state and second discrete state by means of electrostatic forces, wherein, in the first discrete state, the at least one lens face (105, 155) is substantially covered by the first fluid (120), and, in the second discrete state, the at least one lens face (105, 155) is substantially covered by the second fluid (121).
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2. A lens (100, 300, 604) according to claim 1, wherein the closed system comprises interior surfaces (107, 111) that have different wettability in respect of the first and the second fluids (120, 121).
- 20 3. A lens (100, 300, 604) according to any one of claim 1 and 2, wherein at least one lens face (155) has an aspherical shape that provides for a combination of focusing power and aberration compensation.
4. A lens (100, 300, 604) according to any one of claim 1-3, wherein the lens
- 25 chamber (501) has two lens faces (502, 503) arranged along the light path.
5. A lens (100, 300, 604) according to any one of claims 1-4, wherein at least one lens face (105, 155) is formed of a material that has the same index of refraction as one of the fluids.

6. A camera lens arrangement (600) comprising a discretely adjustable focusing lens (604) as defined in claim 1, wherein the discrete states of the discretely adjustable focusing lens correspond to a macro lens state and a micro lens state.

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7. A camera lens arrangement (600) according to claim 6, further comprising at least one additional lens (602) that is continuously switchable by means of electrowetting forces.

10 8. A camera lens arrangement (600) according to any one of claim 6 and 7, wherein the discretely adjustable focusing lens (604) forms an integral part with at least one additional lens (603) in the camera lens arrangement.

15 9. A camera module comprising a camera lens arrangement (600) according to claim 6, and a digital image sensor.

10. A mobile phone having a camera functionality and comprising a camera lens arrangement (600) according to claim 6.